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| 10/790,851 | 03/02/2004 | Craig Andrews | LYNN/0117.B | 3130 |
| 24945 | 7590 | 03/19/2007 | | |
| STREETS & STEELE 13831 NORTHWEST FREEWAY SUITE 355 HOUSTON, TX 77040 | | | EXAMINER ZHENG, LOIS L | |
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| SHORTENED STATUTORY PERIOD OF RESPONSE | | MAIL DATE | DELIVERY MODE | |
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Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/790,851

Applicant(s)

ANDREWS ET AL.

Examiner

Lois Zheng

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 March 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date 6/24/04.

- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

Status of Claims

1. Claims 1-15 are currently under examination.

Drawings

2. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they include the following reference character(s) not mentioned in the description:

Fig. 1, # 109, 110;

Fig. 3A, # 307;

Fig. 4, # 401, 408;

Fig. 5, # 501, 509;

Fig. 7, # 707;

Fig. 9, # 903;

Fig. 10, # 1003, 1006;

Fig. 11, # 1104.

3. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(5) because they do not include the following reference sign(s) mentioned in the description:

On page 13, line 23, catalysts 105a and 106a ;

4. The drawings are objected to as failing to comply with 37 CFR 1.84(p)(4) because reference character "510" has been used to designate both secondary process and rollers(page 17, lines 4-5 of the specification).

5. Corrected drawing sheets in compliance with 37 CFR 1.121(d), or amendment to the specification to add the reference character(s) in the description in compliance with 37 CFR 1.121(b) are required in reply to the Office action to avoid abandonment of the application. Any amended replacement drawing sheet should include all of the figures appearing on the immediate prior version of the sheet, even if only one figure is being amended. Each drawing sheet submitted after the filing date of an application must be labeled in the top margin as either "Replacement Sheet" or "New Sheet" pursuant to 37 CFR 1.121(d). If the changes are not accepted by the examiner, the applicant will be notified and informed of any required corrective action in the next Office action. The objection to the drawings will not be held in abeyance.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claim 1 is rejected under 35 U.S.C. 102(b) as being anticipated by Murphy et al. US 3,783,735(Murphy).

Murphy teaches an assembly for packaging slurry explosives, wherein the assembly comprises a conveyor belt (Fig. 3 #97), an array of duplicate slurry explosives (Fig. 3 # S1, S2) and the slurry explosives are sealed in plastic tubing (Fig. 3 # W).

Regarding claim 1, the preamble "for an electrochemical cell" and the language "for forming a part of the electrochemical cell" are merely stating the intended use for

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the claimed subassembly and the claimed array of duplicate component and do not impose any structural limitations to the instantly claimed subassembly.

In addition, the array of duplicate slurry explosives as taught by Murphy reads on the claimed array of duplicate components having an active area. The conveyor belt as taught by Murphy reads on the claimed carrier strip divided into segments, wherein each of the segments contain the array of duplicate components. The plastic tubing used for packaging the slurry explosives reads on the claimed cover sealed around each of the segments to completely seal the duplicate components from the environment.

Therefore, Murphy anticipates the instant claim 1.

8. Claims 8 and 11 are rejected under 35 U.S.C. 102(b) as being anticipated by Rummel US 3900602(Rummel).

Rummel teaches an apparatus for manufacturing catalytic layers for fuel cell electrodes(abstract). The apparatus comprising a conveyor belt(Fig. 3 #4) and an array of duplicate electrocatalyst deposits upon the conveyor belt(Fig.3 # 35).

Regarding claim 8, the conveyor belt of Rummel reads on the claimed carrier strip. The conveyor belt of Rummel is capable of been peeled back to allow transfer of electrocatalyst to a surface since the catalysts will move off the conveyor belt as the conveyor belt moves over and around and under a roller.

Regarding claim 11, since the electrocatalyst as taught by Rummel is used in making an electrode used in a fuel cell, the examiner concludes that the electrocatalyst

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as taught by Rummel is either an anionic electrocatalyst or an cathode electrocatalyst as claimed.

Therefore, Rummel anticipates instant claims 8 and 11.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 1-2, 5-6, 10 and 14-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rummel.

The teachings of Rummel are discussed in paragraph 8 above.

Regarding claims 1-2 and 10, even though Rummel does not explicitly teach the claimed cover seal around each of the segments, one of ordinary skill in the art would have found it obvious to have seal around each of the segments of Rummel in order to protect the surfaces of the catalysts from damages from hazardous environment before the catalyst components are being used.

Regarding claims 5 and 14, one of ordinary skill in the art would have found the claimed cover sealed by adhesive means obvious in the apparatus of Rummel since using adhesives is a simple, cost effective and well known method to secure a protective material such as the cover seal of Rummel.

Regarding claims 6 and 15, the claimed peeling back of the protective cover seal in the apparatus of Rummel would have been obvious to one of ordinary skill in the art

in order put the catalysts of Rummel in use. In addition, the claimed peeling back of the cover seal does not lend patentability to the instant apparatus claim since it is directed to a process limitation that does not impose any structure limitations to the instant apparatus claim.

11. Claims 3-4, 9 and 12-13 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rummel in view of Debe et al. US 6183668(Debe).

The teachings of Rummel are discussed in paragraph 8 above. However, Rummel does not explicitly teach that the surface is an ion exchange membrane.

Debe teaches the production of membrane electrode assembly used in an fuel cell(abstract). Debe further teaches that electrocatalyst layer is transferred onto the surface of a proton exchange membrane by static pressing or continuous nip-rolling(col. 23 lines 41 to 57).

Regarding claim 9, one of ordinary skill in the art would have found the claimed ion exchange membrane as the surface for transferring electrocatalyst of Rummel as taught by Debe obvious in order to form a usable fuel cell.

Regarding claims 3-4 and 12-13, Debe further teaches that support strip made of metallized polyimide can be used as substrate for the catalyst during a pressing process to transfer the catalyst onto the proton exchange membrane and then be peeled away at the end of the pressing process(col. 23 line 58 – col. 24 line 9). Therefore, one of ordinary skill in the art would have found it obvious to have incorporated the metallized polyimide substrate as the carrier strip in the apparatus of Rummel in order to protect and ensure successful transfer of catalyst onto the proton exchange membrane as

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taught by Debe. Therefore, the metallized polyimide substrate as taught by Rummel in view of Debe meets the limitations as recited in claims 12-13.

12. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rummel in view of Andrews et al. US 5,989,407(Andrews) and further in view of Omatsu et al. US 6,117,685(Omatsu).

The teachings of Rummel are discussed in paragraph 8 above. However, Rummel does not explicitly teach the claimed indicator patch.

Andrews teaches an ozone generator with a plurality of PEM cells as shown in Fig. 3. Since Rummel also teaches that its catalytic material can be used in both fuel cells and other electrolyzers(col. 7 lines 29 – 32), one of ordinary skill in the art would have found it obvious to have used the catalytic material of Rummel into the ozone generating electrolyzer of Andrews with expected success.

Omatsu teaches ozone indicator with high sensitivity to ozone using anthraquinone dye(abstract). Therefore, one of ordinary skill in the art would have found it obvious to have incorporated the ozone indicator of Omatsu into the electrolytic ozone generator of Rummel in view of Andrews in order to control and monitor ozone concentration.

Conclusion

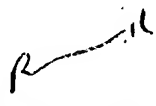
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Lois Zheng whose telephone number is (571) 272-1248. The examiner can normally be reached on 8:30am - 5:00pm.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

LLZ

ROY KING 
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